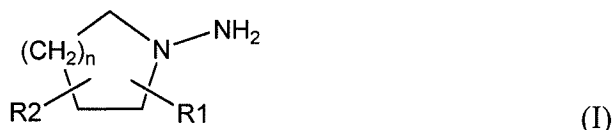


Amendments to the Claims:

1-14. (Canceled)

15. (Currently Amended) A method for synthesizing derivatives of exocyclic cycloalkyl-hydrazines and heterocycloalkyl-hydrazines of the formula (I):



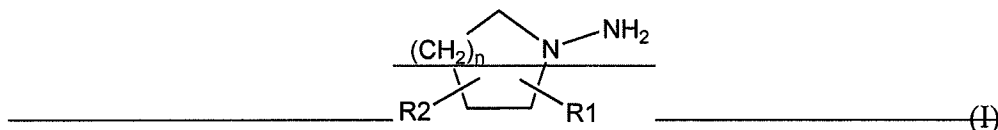
in which, R1 and R2 are identical or different and represent a hydrogen atom or a C₁-C₆ alkyl radical, or R1 and R2 together form a C₃-C₈ cycloalkyl radical, and n equals 1 to 3, said method comprising the following successive steps:

(a) synthesizing the derivative of exocyclic cycloalkyl-hydrazine or heterocycloalkyl-hydrazine in a suitable reactor by causing a monochloramine to react with a heterocyclic amine in an alkaline medium at a temperature of between 30 and 60°C; then

(b) demixing the solution obtained at step (a) into an organic phase and an aqueous phase through the addition of anhydrous sodium hydroxide under cooling so that the temperature does not exceed the boiling point of the compounds.

16. (Previously Presented) The method of claim 15, comprising, following step (b), a step (c) of isolating the derivative of exocyclic cycloalkyl-hydrazine or heterocycloalkyl-hydrazine by distilling the organic phase obtained.

17. (Currently Amended) The method of claim 15, wherein the derivative of exocyclic cycloalkyl-hydrazine or heterocycloalkyl-hydrazine ~~has the formula (I):~~



~~in which, R1 and R2 are identical or different and represent a hydrogen atom or a C₁-C₆ alkyl radical, or R1 and R2 together form a C₃-C₈ cycloalkyl radical, and n equals 1 to 3 is selected from the group consisting of N-aminopiperidine, N-aminomorpholine, N-amino-2,6-dimethyl-piperidine, N-aminopyrrolidine, N-aminoazepine and N-amino-4-methyl-piperazine.~~

18. (Previously Presented) The method of claim 17, wherein in formula (I), one of the carbon atoms of the cycle is replaced by a heteroatom chosen from among a nitrogen or oxygen atom.

19. (Previously Presented) The method of claim 15, wherein at step (a) the heterocyclic amine / monochloramine molar ratio is between 4 and 10.

20. (Previously Presented) The method of claim 15, wherein the reactor of step (a) is placed in an inert atmosphere.

21. (Previously Presented) The method of claim 15, wherein prior to step (a), the monochloramine is alkalinized in a mixer through the addition of a solution of sodium hydroxide so that the weight percentage of sodium hydroxide is between 2 and 6%.

22. (Previously Presented) The method of claim 21, wherein the mixer is maintained at a temperature of between -10 and 5°C.

23. (Previously Presented) The method of claim 15, wherein the quantity of anhydrous sodium hydroxide added at step (b) is such that the weight percentage of sodium hydroxide is between 10 and 35%.

24. (Previously Presented) The method of claim 15, wherein the heterocyclic amine is added at step (a) in the form of anhydrous heterocyclic amine.

25. (Previously Presented) The method of claim 16, wherein the heterocyclic amine is added at step (a) in the form of anhydrous heterocyclic amine.

26. (Previously Presented) The method of claim 25, wherein step (c) comprises the following step:

(i) isolating the heterocyclic amine which has not reacted and a concentrated solution of the exocyclic cycloalkyl-hydrazine or heterocycloalkyl-hydrazine derivative by distillation of the organic phase obtained after step (b).

27. (Previously Presented) The method of claim 26, wherein step (c) further comprises, following step (i), a step (ii) of rectifying, by distillation under reduced pressure, said concentrated solution of the derivative of exocyclic cycloalkyl-hydrazine or heterocycloalkyl-hydrazine.

28. (Previously Presented) The method of claim 15, wherein the heterocyclic amine is added at step (a) in the form of a concentrated aqueous solution of heterocyclic amine.

29. (Previously Presented) The method of claim 28, wherein the heterocyclic amine is added at step (a) in the form of a water-heterocyclic amine azeotrope.

30. (Previously Presented) The method of claim 28, wherein after step (a) and prior to step (b), the method comprises the following steps:

(i') removing the ammonia present in the solution obtained after step (a) by stripping; then

(ii') isolating a solution containing the formed derivative of exocyclic cycloalkyl-hydrazine or heterocycloalkyl-hydrazine and an aqueous solution of heterocyclic amine which has not reacted by distilling the solution obtained after step (i') at a temperature of between 50 and 180°C; and

(iii') reinjecting into the reactor of step (a) said aqueous solution of heterocyclic amine obtained after step (ii').

31. (Previously Presented) The method of claim 30, wherein said aqueous solution is in the form of an azeotrope.

32. (Previously Presented) The method of claim 15, wherein the monochloramine is prepared using a method comprising the following successive steps:

α) preparing an aqueous solution of sodium hypochlorite having a chlorometric degree between 36 and 100°; then

β) causing a solution of ammonium hydroxide and ammonium chloride to react with the aqueous solution of sodium hypochlorite obtained after step (a) in a low alkaline medium at a temperature between -15 and -7°C to form said monochloramine.

33. (Previously Presented) The method of claim 32, wherein the aqueous solution of sodium hypochlorite is prepared by diluting a hypochlorite solution with between 100 and 120 chlorometric degrees.

34. (Previously Presented) The method of claim 32, wherein the molar ratio of ammonium hydroxide and ammonium chloride solution / aqueous solution of sodium hypochlorite is between 2.5 and 3.

35. (Previously Presented) The method of claim 32, wherein the molar ratio of ammonium chloride / ammonium hydroxide is between 0.1 and 1.75.

36. (Previously Presented) The method of claim 32, wherein the molar ratio of ammonium chloride / ammonium hydroxide is 0.65.